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EXAMINER

YOON, TAE H

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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Paper No. 25

Application Number: 09/036,458  
Filing Date: March 6, 1998  
Appellant(s): Marie Angelopoulos et al.

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Thomas A. Beck  
For Appellant

**EXAMINER'S ANSWER**

This is in response to appellant's brief on appeal filed on August 15, 2000.

**(1) *Real Party in Interest***

A statement identifying the real party in interest is contained in the brief.

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**(2) *Related Appeals and Interferences***

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

**(3) *Status of Claims***

The statement of the status of the claims contained in the brief is correct.

However, this appeal involves claims 1-19 and 21 since the rejection of claim 20 under 35 USC 112, second paragraph was overcome by the amendment filed on January 3, 2000.

Thus, claim 20 should have been allowed and is now allowed.

**(4) *Status of Amendments After Final***

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

The amendment after final rejection filed on May 12, 2000 has been entered.

**(5) *Summary of Invention***

The summary of invention contained in the brief is correct.

**(6) *Issues***

The appellant's statement of the issues in the brief is correct.

**(7) *Grouping of Claims***

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Appellant's brief includes a statement that claims 1, 6, 7 and 12 (claim 20 is allowed) do not stand or fall together and provides reasons in section (8) arguments as set forth in 37 CFR 1.192(c)(7) and (c)(8).

**(8) *Claims Appealed***

A substantially correct copy of appealed claims appears in the Appendix to the appellant's brief. The minor errors are as follows:

1. Claims 16 and 19 are missing from page 9 of the Appendix, and it should contain following claims,

--16. A method according to claim 1 wherein said solvent comprises more than one fluorinated solvent.

19. A method according to claim 1 wherein an electrically conducting polymer or precursor is blended with a thermoset or thermoplastic polymer.”--

2. Appellant has deleted “(F-113)”, which was rejected under 35 USC 112, second paragraph, after “1,1,2-trichloro-1,2,2-trifluoroethane” in claim 12 (the last line on page 4 of the Appendix).

**(9) *Prior Art of Record***

The following is a listing of the prior art of record relied upon in the rejection of claims under appeal.

Traynor

4,629,798

12-1986

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Ikenaga et al.	4,772,421	9-1988
Jonas et al.	4,902,573	2-1990
Tan	5,863,658	1-1999
Genies et al.	EP 0315514	5-1989

**(10) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 12 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim recited a Trademarks, F-113, after "1,1,2-trichloro-1,2,2-trifluoroethane". The use of trademarks and tradenames in the claims is improper because the manufacturer is under no obligation to continue making the same material under a given trademark nor to continue selling anything under a given trademark. The discontinued use of the trademark or the changing of the material sold under the trademark renders the claim meaningless. See MPEP 608.01(v).

Appellant's remark regarding correction is acknowledged.

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The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-5, 8, 9, 11, 12, 17-19 and 21 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Jonas et al (US 4,902,573).

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Jonas et al teach the instant invention at col. 5, lines 16-41 wherein the use of fluorinated hydrocarbons and a mixture thereof are taught.

Thus, the instant invention lacks novelty, and any alternative such as less than 5 weight% in the instant claim 9 and a mixture of solvents in claim 16 are obvious modification to one of ordinary skill in the art at the time of invention since Jonas et al teaches mixtures of solvents and 2 to 10 % (concentration) and since choosing a range within a range is a *prima facie* obviousness.

Appellant asserts that Jonas et al do not recognize a selection of the concentration in order to substantially maximize the electrical conductivity, but the examiner disagrees as follows:

1. The minimum requirement of the instant claims is to choose a concentration of a precursor to an electrically conductive polymer such as pyrrole, and choosing a concentration alone does not yield substantially maximized said electrical conductivity. See the bottom paragraph of page 2 of the specification wherein "The conductivity ( $\sigma$ ) is dependent on the number of carriers ( $n$ ) set by the doping level, the charge on the carriers ( $q$ ) and on the mobility ( $\mu$ ) (both interchain and intrachain mobility of the carriers[.])" is taught. Said "substantially maximize said electrical conductivity" differs from "maximize said electrical conductivity", and the maximum electrical conductivity is not required. (Similarity stated in the Advisory Action mailed on May 24, 2000).
2. The instant method, making a solution of the pyrrole in a concentration of 1 to 50%, preferably 2 to 20%, and fluorinated hydrocarbons such as 1,1,2-trichlorotrifluoroethane are taught at col. 5, lines 16-41, meet the instant invention. (Stated in the First Rejection).

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3. The instant claims do not require polymerization of monomers in the presence of a fluorinated solvents, and the processing of a conductive polymer having any intrinsic electrical conductivity in a fluorinated hydrocarbon solvent meets the invention. Also, note that the instant claims do not require changing the conductivity of a polymer and thus the reference showing at least one conductivity meets the invention. (Stated in the Final Rejection mailed on February 8, 2000).

4. Choosing a fluorinated hydrocarbon from 4 species (n-hexane, bezzene, toluene and 1,1,2-trichlorotrifluoroethane, col. 5, lines 28-31) is an anticipation. See *In re Arkley*, 455 f2d 586, 172 USPQ 524 (CCPA 1972); *In re Petering*, 301 F2d 676, 133 USPQ 275 (CCPA 1962).

Also, see *In re Mills*, 477 F2d 649, 176 USPQ 196 (CCPA 1972); Reference must be considered for all that it discloses and must not be limited to its preferred embodiments or working examples.

5. Thus, the rejection is neither vague nor indefinite and the examiner is not improperly picking and choosing as the reasons given above. Contrary to appellant's assertion, the examiner has pointed out the limitation for the instant claims in Jonas et al.

**Claims 1-4, 9-12, 17 and 18 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Traynor (US 4,629,798).**

Traynor teaches a solution of polypyrroles in fluorinated hydrocarbon solvents and films thereof at col. 7, lines 35-51.

Thus, the instant invention lacks novelty, and any alternative such as less than 5 weight % in the instant claim 9 is an obvious modification to one of ordinary skill in the art at the time of



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invention since Traynor teaches less than 10 parts by weight of polypyrrole in 100 parts by weight of solvent.

Appellant asserts that Traynor does not recognize a selection of the concentration in order to substantially maximize the electrical conductivity, but the examiner disagrees as follows:

1. The minimum requirement of the instant claims is to choose a concentration of a precursor to an electrically conductive polymer such as pyrrole, and choosing a concentration alone does not yield substantially maximized said electrical conductivity. See the bottom paragraph of page 2 of the specification wherein "The conductivity ( $\sigma$ ) is dependent on the number of carriers ( $n$ ) set by the doping level, the charge on the carriers ( $q$ ) and on the mobility ( $\mu$ ) (both interchain and intrachain mobility of the carriers[)]." is taught. Said "substantially maximize said electrical conductivity" differs from "maximize said electrical conductivity", and the maximum electrical conductivity is not required. (Similary stated in the Advisory Action mailed on May 24, 2000).
2. The instant method, making a solution of the polypyrrole in a concentration of at least 10 parts by weight in 100 parts by weight of fluorinated hydrocarbons is taught at col. 7, lines 35-51, meet the instant invention. (Stated in the First Rejection).
3. The instant claims do not require polymerization of monomers in the presence of a fluorinated solvents, and the processing of a conductive polymer having any intrinsic electrical conductivity in a fluorinated hydrocarbon solvent meets the invention. Also, note that the instant claims do not

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require changing the conductivity of a polymer and thus the reference showing at least one conductivity meets the invention. (Stated in the Final Rejection mailed on February 8, 2000).

4. Choosing fluorinated hydrocarbons from the disclosed species (col. 7, lines 39-43) is an anticipation. See *In re Arkley*, 455 f2d 586, 172 USPQ 524 (CCPA 1972); *In re Petering*, 301 F2d 676, 133 USPQ 275 (CCPA 1962). Also, see *In re Mills*, 477 F2d 649, 176 USPQ 196 (CCPA 1972); Reference must be considered for all that it discloses and must not be limited to its preferred embodiments or working examples.

5. Thus, the rejection is neither vague nor indefinite and the examiner is not improperly picking and choosing as the reasons given above. Contrary to appellant's assertion, the examiner has pointed out the limitation for the instant claims in Traynor.

**Claims 1-4, 6, 7, 9-12 and 16-19 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Ikenaga et al (US 4,772,421).**

Ikenaga et al teach the instant polymerization in examples 6-12. Conductive precursors and polymers are taught at col. 3, lines 8-21.

Thus, the instant invention lacks novelty, and any alternative such as polyaniline is an obvious modification to one of ordinary skill in the art at the time of invention since Ikenaga et al teach various precursor polymers and conducting polymers thereof and since polyaniline is the art well known conducting polymer (or precursor).

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Appellant asserts that Ikenaga et al do not recognize a selection of the concentration in order to substantially maximize the electrical conductivity, but the examiner disagrees as follows:

1. The minimum requirement of the instant claims is to choose a concentration of a precursor to an electrically conductive polymer such as pyrrole, and choosing a concentration alone does not yield substantially maximized said electrical conductivity. See the bottom paragraph of page 2 of the specification wherein "The conductivity ( $\sigma$ ) is dependent on the number of carriers ( $n$ ) set by the doping level, the charge on the carriers ( $q$ ) and on the mobility ( $\mu$ ) (both interchain and intrachain mobility of the carriers[.])." is taught. Said "substantially maximize said electrical conductivity" differs from "maximize said electrical conductivity", and the maximum electrical conductivity is not required. (Similary stated in the Advisory Action mailed on May 24, 2000).
2. The instant method, a polymerization of the pyrrole in a concentration of 25% in fluorinated hydrocarbons of example 6, meet the instant invention. (Stated in the First Rejection). Examples 6 and 7 (table 1) have yielded an electrical conductivity of 100 and 200 S/cm, respectively.
3. The processing of a conductive polymer having any intrinsic electrical conductivity in a fluorinated hydrocarbon solvent meets the invention. Also, note that the instant claims do not require changing the conductivity of a polymer and thus the reference showing at least one conductivity meets the invention. (Stated in the Final Rejection mailed on February 8, 2000).
4. Thus, the rejection is neither vague nor indefinite and the examiner is not improperly picking and choosing as the reasons given above. Contrary to appellant's assertion, the examiner has pointed out the limitation for the instant claims in Ikenaga et al.

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**Claims 1-4, 9-15 and 17-19 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Tan (US 5,863,658).**

Tan teaches solutions of doped polyanilines in various solvents such as hexafluoroisopropanol and blends thereof at col. 1, line 63 to col. 2, line 6.

Thus, the instant invention lacks novelty, and any alternative such as a film is an obvious modification to one of ordinary skill in the art at the time of invention since Tan teaches a conductive film in abstract and since films and fibers of conductive polymers is well known in the art.

Appellant asserts that Tan does not recognize a selection of the concentration in order to substantially maximize the electrical conductivity, but the examiner disagrees as follows:

1. The minimum requirement of the instant claims is to choose a concentration of a precursor to an electrically conductive polymer such as pyrrole, and choosing a concentration alone does not yield substantially maximized said electrical conductivity. See the bottom paragraph of page 2 of the specification wherein "The conductivity ( $\sigma$ ) is dependent on the number of carriers ( $n$ ) set by the doping level, the charge on the carriers ( $q$ ) and on the mobility ( $\mu$ ) (both interchain and intrachain mobility of the carriers[.])" is taught. Said "substantially maximize said electrical conductivity" differs from "maximize said electrical conductivity", and the maximum electrical conductivity is not required. (Similarity stated in the Advisory Action mailed on May 24, 2000).

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2. The instant claims do not require polymerization of monomers in the presence of a fluorinated solvents, and the processing of a conductive polymer having any intrinsic electrical conductivity in a fluorinated hydrocarbon solvent meets the invention. Also, note that the instant claims do not require changing the conductivity of a polymer and thus the reference showing at least one conductivity meets the invention. (Stated in the Final Rejection mailed on February 8, 2000).
3. Choosing a fluorinated hydrocarbon, hexafluoroisopropanol, from 3 species (m-cresol, chloroform and hexafluoroisopropanol, col. 2, lines 1-2) is an anticipation. See In re Arkley, 455 f2d 586, 172 USPQ 524 (CCPA 1972); In re Petering, 301 F2d 676, 133 USPQ 275 (CCPA 1962). Also, see In re Mills, 477 F2d 649, 176 USPQ 196 (CCPA 1972); Reference must be considered for all that it discloses and must not be limited to its preferred embodiments or working examples.
4. Thus, the rejection is neither vague nor indefinite and the examiner is not improperly picking and choosing as the reasons given above. Contrary to appellant's assertion, the examiner has pointed out the limitation for the instant claims in Tan.

**Claims 1-4, 6, 7 and 9-18 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over EP 0315514.**

EP teaches the instant polymerization of aniline in the presence of mixed solvents such as NH<sub>4</sub>F and HF in abstract.

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Thus, the instant invention lacks novelty, and any alternative such as less than 5 weight % in the instant claim 9 is an obvious modification to one of ordinary skill in the art at the time of invention since choosing workable concentrations is considered a routine practice in the art.

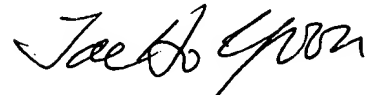
Appellant asserts that EP does not recognize a selection of the concentration in order to substantially maximize the electrical conductivity, but the examiner disagrees as follows:

1. The minimum requirement of the instant claims is to choose a concentration of a precursor to an electrically conductive polymer such as pyrrole, and choosing a concentration alone does not yield substantially maximized said electrical conductivity. See the bottom paragraph of page 2 of the specification wherein "The conductivity ( $\sigma$ ) is dependent on the number of carriers ( $n$ ) set by the doping level, the charge on the carriers ( $q$ ) and on the mobility ( $\mu$ ) (both interchain and intrachain mobility of the carriers[.])." is taught. Said "substantially maximize said electrical conductivity" differs from "maximize said electrical conductivity", and the maximum electrical conductivity is not required. (Similary stated in the Advisory Action mailed on May 24, 2000).
2. The instant method, making a solution of the aniline (centration of about 9.3% since the molecular weight of aniline is about 93g) in claimed embodiments of EP is self-explanatory to one skilled in the art. (The abstract containing said claimed embodiments was stated in the First Rejection).
- 3.. Thus, the rejection is neither vague nor indefinite and the examiner is not improperly picking and choosing as the reasons given above. Contrary to appellant's assertion, the examiner has pointed out the limitation for the instant claims in EP.

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For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,



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